

***ATTACHMENT 11 – BONN AGREEMENT ANNUAL REPORT ON AERIAL SURVEILLANCE, 2006***



# **Bonn Agreement Accord de Bonn**

## **Bonn Agreement Aerial Surveillance Programme**

### **Annual report on aerial surveillance for 2006**

#### **CONTENTS**

**Introduction**

**Commentary**

<b>Table 1:</b>	<b>Summary of data relating to National Flights during 2006</b>
<b>Table 2:</b>	<b>Summary of data relating to Co-ordinated Extended Pollution Control Operations (CEPCO) flights during 2006</b>
<b>Table 3:</b>	<b>Summary of data relating to Tour d'Horizon (TdH) flights during 2006</b>
<b>Table 4:</b>	<b>Summary of data relating to all flights during 2006</b>
<b>Table 5:</b>	<b>Distribution of the estimated sizes of confirmed/observed oil slicks</b>
<b>Figure 1</b>	<b>Overview of observed slicks 2006</b>
<b>Figure 2</b>	<b>Common HELCOM / Bonn Agreement map showing the location of oil spills confirmed/ observed by aerial surveillance within the Baltic Sea and North Sea areas in 2006</b>
<b>Figure 3</b>	<b>Maritime traffic routes off the Netherlands</b>
<b>Figure 4</b>	<b>Maritime traffic routes off Norway</b>
<b>Figure 5</b>	<b>Number of flight hours per country 1990 – 2006</b>
<b>Figure 6</b>	<b>Number of slicks observed 1990 – 2006</b>
<b>Figure 7</b>	<b>Total numbers: all flight hours and all observed slicks 1986 – 2006 and their ratio.</b>
<b>Annex 1</b>	<b>Definitions used in the reporting of data</b>
<b>Annex 2</b>	<b>Further information on Tour d'Horizon flights</b>
<b>Annex 3</b>	<b>Summary of information on: size of EEZs; major traffic routes; number of oil and gas installations; satellite surveillance programmes and objectives of flights.</b>

# Bonn Agreement Aerial Surveillance Programme

## Annual report on aerial surveillance for 2006

### Introduction

1. The eight countries bordering the North Sea which work together within the Bonn Agreement undertake aerial surveillance using specially equipped aircraft and specialised personnel. This report deals with the aerial surveillance undertaken as a collective effort under the Bonn Agreement. In addition, the North Sea countries also undertake other aerial surveillance for individual national purposes.
2. In addition to national flights carried out under the Bonn Agreement in their own parts of the maritime area (the objectives of these are described in Annex 3), the Bonn Agreement countries also co-ordinate flights of the following types :
  - a. *Tour d'Horizon* (TdH) flights - monthly flights carried out by countries in turn to survey the offshore area of the North Sea where offshore oil and gas activities take place (not all countries participate in these);
  - b. *Co-ordinated Extended Pollution Control Operations* (CEPCO), where some neighbouring countries co-operate to survey intensively an area with high traffic density during a relatively short period (e.g. 24 hours).
3. This report compiles, in Tables 1 - 5, data for all the flight types undertaken for Bonn Agreement purposes. These Tables are based on data related to the number of flight hours, the number of spills and their estimated volume. This report differs from those for 2000-2002 in that the data on the number of oil spills was related in those reports to the geographical coverage of the surveillance by side-looking airborne radar (SLAR). Following the revision of the reporting format by BONN 2003, this is no longer the case. Definitions of some of the terms used in these tables are given in Annex 1.
4. With the aim of improving cooperation and exploring possibilities for a combined use of assets on a sub-regional level, an enlarged CEPCO operation was carried out over ten days in April 2007. This EC Project "Super CEPCO" was led by Belgium and assisted by the UK, France and the Netherlands. The European Maritime Safety Agency (EMSA) became associated with the project as the project will result by the end of 2007 in draft European guidelines on oil pollution monitoring, detection and reporting procedures for use at national and at sub-regional level.
5. The ten-day Super CEPCO operation was held above the BA Quadripartite Zone, the Dover Strait and part of the Channel. All available aircraft from Bonn Agreement Contracting Parties participated in this big operation. During the Super CEPCO five discharging vessels were observed and documented. Fifty-one aerial observations were made during the Super CEPCO of which there were 36 oil pollutions. Twenty SAR satellite images (11 Radarsat and 9 Envisat) were provided by EMSA's Cleanseanet.
6. The Super CEPCO concept trial proved to be very successful. It demonstrates that the more aerial surveillance is carried out the more ships are found polluting.
7. Details on the oil-slicks identified during the Tour d'Horizon flights, and on the outcome of investigations into those oil-slicks are set out in Annex 2.
8. This report includes (in Annex 3) the following information about each Contracting Party:
  - a. size of the Exclusive Economic Zone (EEZ) in km<sup>2</sup>;
  - b. any major traffic routes in the EEZ;

- c. the number of any oil/gas rigs in the EEZ;
- d. the existence of satellite programmes;
- e. a short description of the objective of the flights.

9. The report demonstrates the co-operation in aerial surveillance among North Sea countries and their collective effort to detect marine pollution. The North West European Waters – the main part of which is formed by the North Sea – have been declared a Special Area by the International Maritime Organization for the purpose of MARPOL Annex I (Oil). This took effect on 1 August 1999, from which date the discharge of all oily wastes at sea in the Special Area is prohibited.

## Commentary

10. The results of the follow-up of “identified polluters” (cf. Tables 1 and 3) are not included in this report, since it may take a year or more to obtain the outcome of court or administrative proceedings in the country responsible for such proceedings (acting as flag state, coastal state or port state). The Bonn Agreement has produced a Manual on Oil Pollution at Sea – Securing Evidence on Discharges from Ships and is cooperating with the North Sea Network of Investigators and Prosecutors to revise the 2000 second part of the Manual Effective Prosecution of Offenders – Guidelines on International Co-operation.

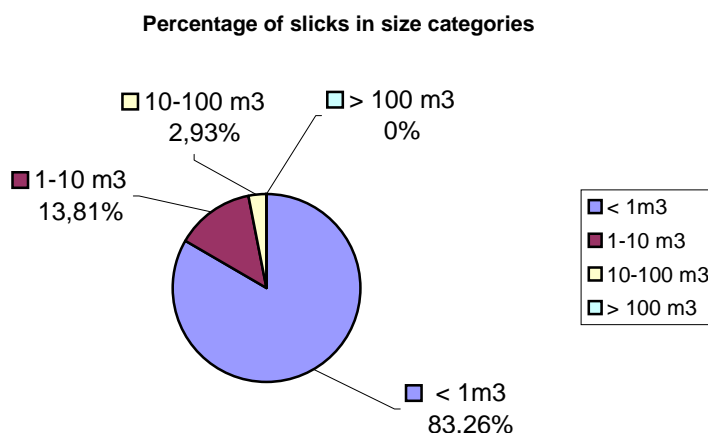
11. For about 80% of the detections observed/confirmed as oil slicks, the source of the slick (i.e. the polluter) has not been identified. Most visible oil slicks, however, come from shipping and offshore installations.

12. This report includes estimates of the total amounts of oil discharged based on the aerial-surveillance data. These estimates use the Bonn Agreement Colour Code until 2003 and from 2004 use its replacement, the Bonn Agreement Oil Appearance Code. The Contracting Parties to the Bonn Agreement consider that the data currently available are too sparse and too diverse to allow reliable overall estimation of oil inputs, and that such estimates should be interpreted as indicative and not totally accurate. Joint aerial surveillance exercises are organised on a regular basis to harmonise measurement techniques and to improve the accuracy and comparability of the data e.g. with a view to analysing them statistically.

13. The quantities of oil discharged into the North Sea by the offshore industry are reported to the OSPAR Commission by the countries under whose jurisdiction offshore oil extraction takes place (the total quantity of oil discharged into the OSPAR maritime area through discharges and spillages of dispersed oil in 2005 was [8913] tonnes). The Bonn Agreement is cooperating with the OSPAR Convention in a project for evaluating the number of oil spills reported by the operators of oil and gas installations during the period of the Tour d'Horizon flights in order to detect discrepancies with the Tour d'Horizon Reports for 2002 and 2003. There are at present no equivalent reliable figures for the amount of oil input to the North Sea from land-based sources or from shipping.

14. In 2006, no slicks of over 100m<sup>3</sup> were reported.

15. The 239 slicks where estimated volumes were reported can be subdivided into the following size-categories:



Most slicks are thus in a size-category that does not warrant action to combat them, since they will evaporate, dissolve and disperse naturally.

16. An overview of the locations of slicks observed during 2006 is given in Figure 1 (Map). A common HELCOM / Bonn Agreement map, showing the location of oil spills observed by aerial surveillance within the Baltic Sea and North Sea areas in 2006, is given in Figure 2. Overviews of the major traffic routes in the EEZs of the Netherlands and Norway are given in Figures 3 and 4. When examining Figures 1, 1A, 2, 3 and 4, the reader should take account of the following:

- a. the density of ship traffic, and thus the associated likelihood of observing slicks, are highest in the traffic corridor along the south-eastern shore of the Bonn Agreement area;
- b. Contracting Parties' flight hours reported in Table 1 are mostly spent surveying the national zones of interest, which in most cases correspond with the national EEZ or continental shelf areas. There are large differences in the sizes of these zones of interest and the respective total numbers of hours spent surveying them. This implies that the relative frequency with which areas are visited – and thus the potential density of the observations – varies significantly between Contracting Parties.

17. The format of the report's tables 1 – 5 was modified in 2000 and in 2003. The 2000 to 2002 data reflects the relation of the observation with SLAR coverage through the concept of 'BA flight hour' (i.e. one hour of airborne remote sensing over the sea at a standardised speed of 335 km per hour). As a result of this revision of the reporting format in 2000, the flight hour data up to 1999 are absolute numbers and from 2000 to 2002 the flight hour data are standardised on SLAR-coverage, i.e. corrected for relative aircraft speed. For the countries for which the average aircraft speed is significantly different from the standard speed (e.g. Belgium and UK), the data up to 1999 and from 2000 will not be comparable. As a result of a new revision of the reporting format in 2003, from 2003 onwards, the data are again absolute numbers.

**Table 1. Summary of data relating to National Flights during 2006**

Country	No. of flight hours			No. of detections			Detections confirmed/observed as oil spills			Satellite detections		Estimated volume M <sup>3</sup> (1)	No. of polluters			Remarks
	Daylight	Darkness	Sum	Daylight	Darkness	Sum	Daylight	Darkness	Overall	Detected	Confirmed		Rigs	Ships	Other/Unknown	
Belgium	96.72	25.22	121.94	10	3	13	5	0	5	5		10	0	1	8	(2) (3)
Denmark	125.50	47.78	173.28	82	3	85	66	3	69	98	46	40	5	6	58	
France	779	0	779	52	0	52	29	0	29	0	0	75	0	3	26	(4) (5)
Germany	737.75	240.25	978	68	16	84	68	16	84	58	13	45	2	10	72	(6) (7)
Netherlands	599.63	162.85	762	118	30	148	64	5	69	133	13	55	1	22	125	
Norway	330	53	383	17	0	17	15	0	15	36	14	5	2	1	14	(8) (9)
Sweden	180	29	209	7	0	7	7	0	7	5		0.18	0	0	7	
UK	364	243	607	25	1	26	25	1	26	72	0	20	15	1	10	(10)
<b>Total</b>	<b>3212.6</b>	<b>801.1</b>	<b>4013.7</b>	<b>379</b>	<b>53</b>	<b>432</b>	<b>279</b>	<b>25</b>	<b>304</b>	<b>407</b>	<b>86</b>	<b>250</b>	<b>25</b>	<b>44</b>	<b>320</b>	

- (1) The data currently available do not allow reliable overall estimation of oil inputs. These estimates should therefore be interpreted as indicative and not totally accurate. They have therefore been rounded to the nearest 5 m<sup>3</sup> (the nearest 1 m<sup>3</sup> for estimated amounts below 5 m<sup>3</sup>).
- (2) In the first 6 months of 2006 Belgium performed almost no pollution control flights due to the start-up of its new national surveillance programme.
- (3) Four spills not confirmed: 3 were at night and 1 was in a location where oil cannot be confirmed.
- (4) The number of flight hours includes flights made by the Navy and the French customs helicopters within the Bonn Agreement zone.
- (5) 3 slicks from ship wrecks.
- (6) Includes 14 detections made by Dutch aircraft.
- (7) Satellite detections: An additional 40 pollutions were detected by a/c.
- (8) 1596 satellite pictures were used within Norwegian EEZ in 2006. 1218 of these pictures were specified for NOFO, and the main aim here is the offshore industry, however unknown slicks from these images are also processed on to the Norwegian coastal administration. 378 images are specified to coastal waters, most of them north of N61.
- (9) Norway only receives High Confidence satellite observations.
- (10) Includes one spill detected in UK waters, and reported, by Belgium: Date: 22/12/06; Time: 10:20; Lat/long: 51.272/1.960; Estimated volume: 9.771; Polluter: unknown.

**Table 2. Summary of data relating to Co-ordinated Extended Pollution Control Operations (CEPCO) flights during 2006**

Country	No. of flights	No. of flight hours			No. of detections			Estimated volume m <sup>3</sup>	No. of polluters			Remarks
		Daylight	Darkness	Sum	Daylight	Darkness	Sum		Rigs	Ships	Unknown	
Belgium				0	0	0	0	0				
Denmark				0	0	0	0	0				
France				0			0	0				
Germany	14	24	9.50	33.50	4	2	6	0.04	0	2	4	
Netherlands	2	1.5	4.64	6.14	2	10	12	0	0	2		
Norway				0	0	0	0	0				(1)
Sweden				0	0	0	0	0				
UK				0	0	0	0	0				
<b>Total</b>	<b>16</b>	<b>25.5</b>	<b>14.14</b>	<b>39.64</b>	<b>6</b>	<b>12</b>	<b>18</b>	<b>0.04</b>	<b>0</b>	<b>4</b>	<b>4</b>	

(1) Norway undertook no CEPCO flights due to a major upgrade of aircraft

**Table 3. Summary of data relating to Tour d'Horizon (TdH) flights during 2006**

Country	No. of flights	No. of flight hours			No. of detections			Estimated volume m <sup>3</sup>	No. of polluters			Remarks
		Daylight	Darkness	Sum	Daylight	Darkness	Sum		Rigs	Ships	Unknown	
Belgium	7	14.83	0	14.83	4	0	4	0	3	0	1	(1)
Denmark				0		0	0					
France				0	0	0	0				0	
Germany	1	15.25	0	15.25	2	0	2	12	1	0	1	
Netherlands	5	9.82	0	9.82	17	0	17	4	0	0	5	
Norway	2	2.5	2.41	4.91	2	0	2	0	1	0	1	
Sweden	6	17.3	0	17.3	3	0	3	6	2	0	1	
UK	3	11	0	11	0	0	0					
<b>Total</b>	<b>24</b>	<b>70.7</b>	<b>2.41</b>	<b>73.11</b>	<b>28</b>	<b>0</b>	<b>28</b>	<b>23</b>	<b>7</b>	<b>0</b>	<b>9</b>	

(1) Three oil rigs in the Norwegian area and one unknown in German waters.

**Table 4. Summary of data relating to all flights during 2006**

Country	No. of flight hours			No. of detections			Detections confirmed/ observed as oil spills			Satellite detections		Estimated volume M <sup>3</sup> (1)	No. of polluters		
	Daylight	Darkness	Sum	Daylight	Darkness	Sum	Daylight	Darkness	Overall	Detected	Confirmed		Rigs	Ships	Unknown
Belgium	103.72	40.05	143.77	14	3	17	9	0	9	5	0	10	3	1	9
Denmark	125.50	47.78	173.28	82	3	85	66	3	69	98	46	40	5	6	58
France	779.00	0	779	52	0	52	29	0	29	0	0	75	0	3	26
Germany	752.75	279.50	1032.25	74	18	92	74	18	92	58	13	57	3	12	77
Netherlands	606.63	174.17	780.8	137	40	177	83	15	98	133	13	59	1	24	130
Norway	332.00	55.50	387.5	19	0	19	17	0	17	36	14	5	3	1	15
Sweden	186.00	46.30	232.3	10	0	10	10	0	7	5	0	6	2	0	8
UK	367.00	254.00	621	25	1	26	25	1	26	72	0	20	15	1	10
<b>Total</b>	<b>3252.6</b>	<b>897.3</b>	<b>4149.9</b>	<b>413</b>	<b>65</b>	<b>478</b>	<b>313</b>	<b>37</b>	<b>347</b>	<b>407</b>	<b>86</b>	<b>273</b>	<b>32</b>	<b>48</b>	<b>333</b>

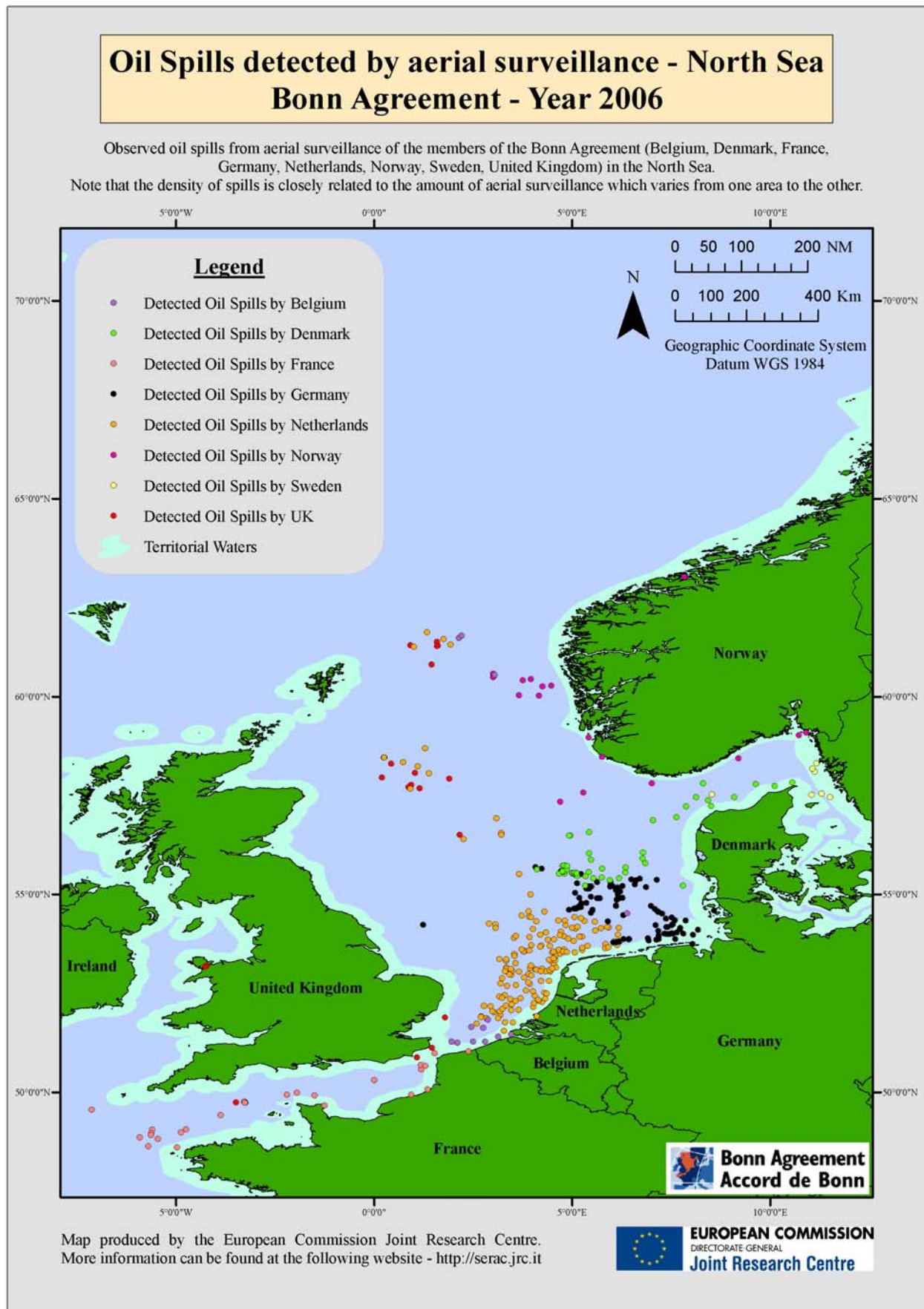
(1) The data currently available do not allow reliable overall estimation of oil inputs. These estimates should therefore be interpreted as indicative and not totally accurate. They have therefore been rounded to the nearest 5 m<sup>3</sup> (the nearest 1 m<sup>3</sup> for estimated amounts below 5 m<sup>3</sup>). The total has been rounded independently.

**Table 5. Distribution of the estimated sizes of confirmed/observed oil slicks**

Country	Category I: < 1 m <sup>3</sup>	Category II: 1 – 10 m <sup>3</sup>	Category III: 10 – 100 m <sup>3</sup>	Category IV: > 100m <sup>3</sup>	Not quantified	Number of Slicks
Belgium	9	0	0	0	0	9
Denmark	55	12	2	0	4	73
France	23	3	3	0	0	29
Germany	25	4	0	0	63	92
Netherlands	47	7	2	0	121	177
Norway	12	2	0	0	2	16
Sweden	7	0	0	0	3	10
UK	21	5	0	0	0	26
<b>Total</b>	<b>199</b>	<b>33</b>	<b>7</b>	<b>0</b>	<b>193</b>	<b>432</b>



**Figure 1: Overview of slicks observed during Bonn Agreement aerial surveillance activities during 2006**



**Figure 2: Common HELCOM / Bonn Agreement map showing the location of oil spills confirmed/observed by aerial surveillance within the Baltic Sea and North Sea areas in 2006**

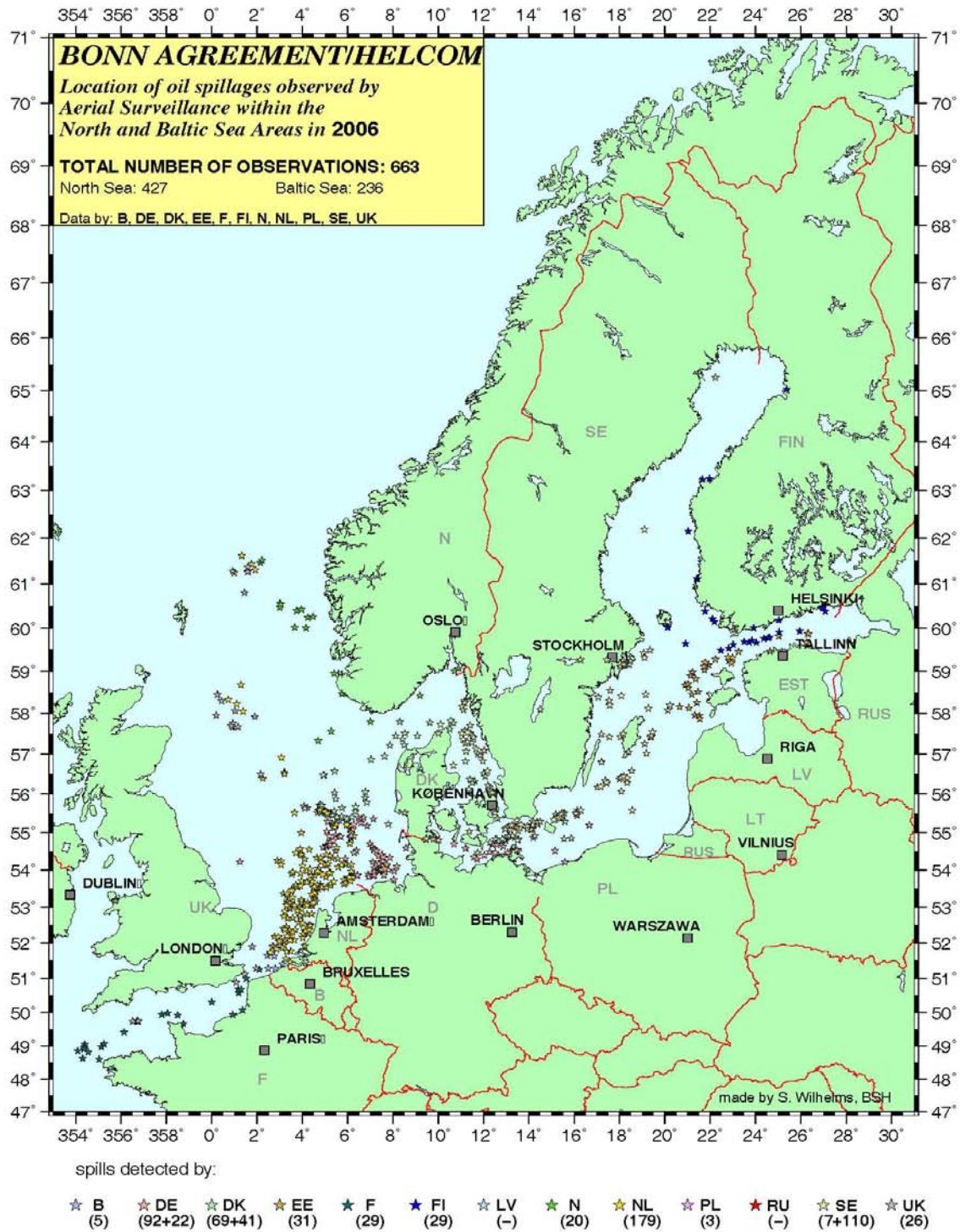


Figure 3: Maritime traffic routes off the Netherlands

Netherlands (marked in orange/yellow);

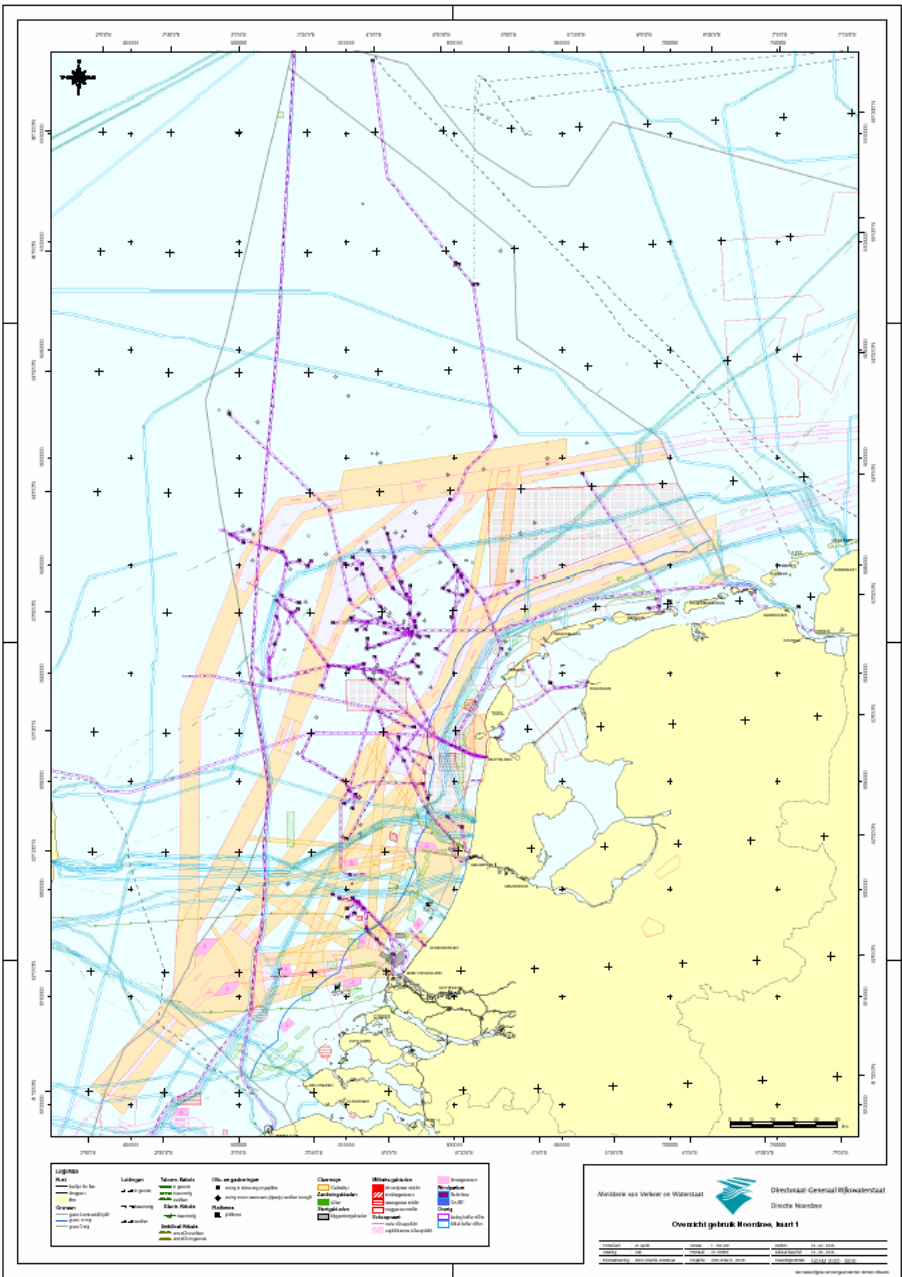
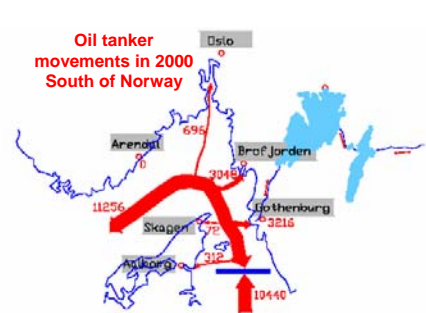
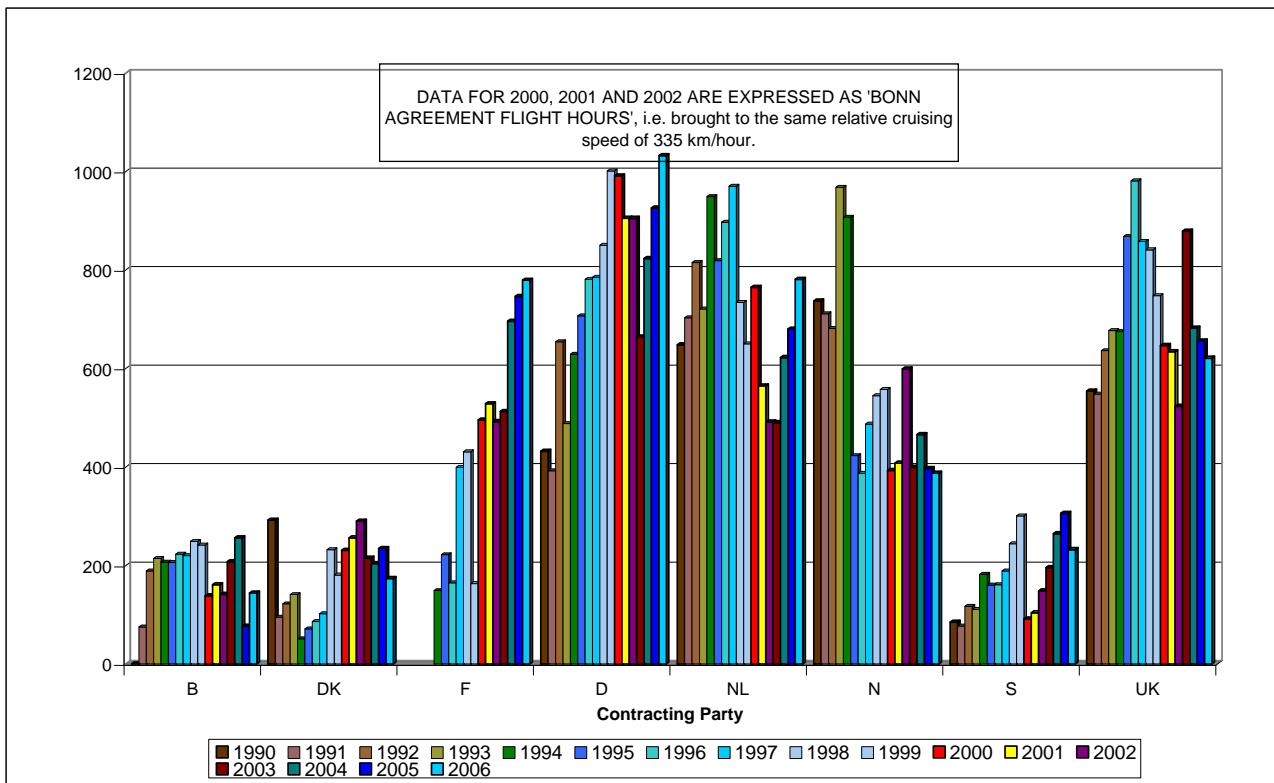


Figure 4: Maritime traffic routes off Norway

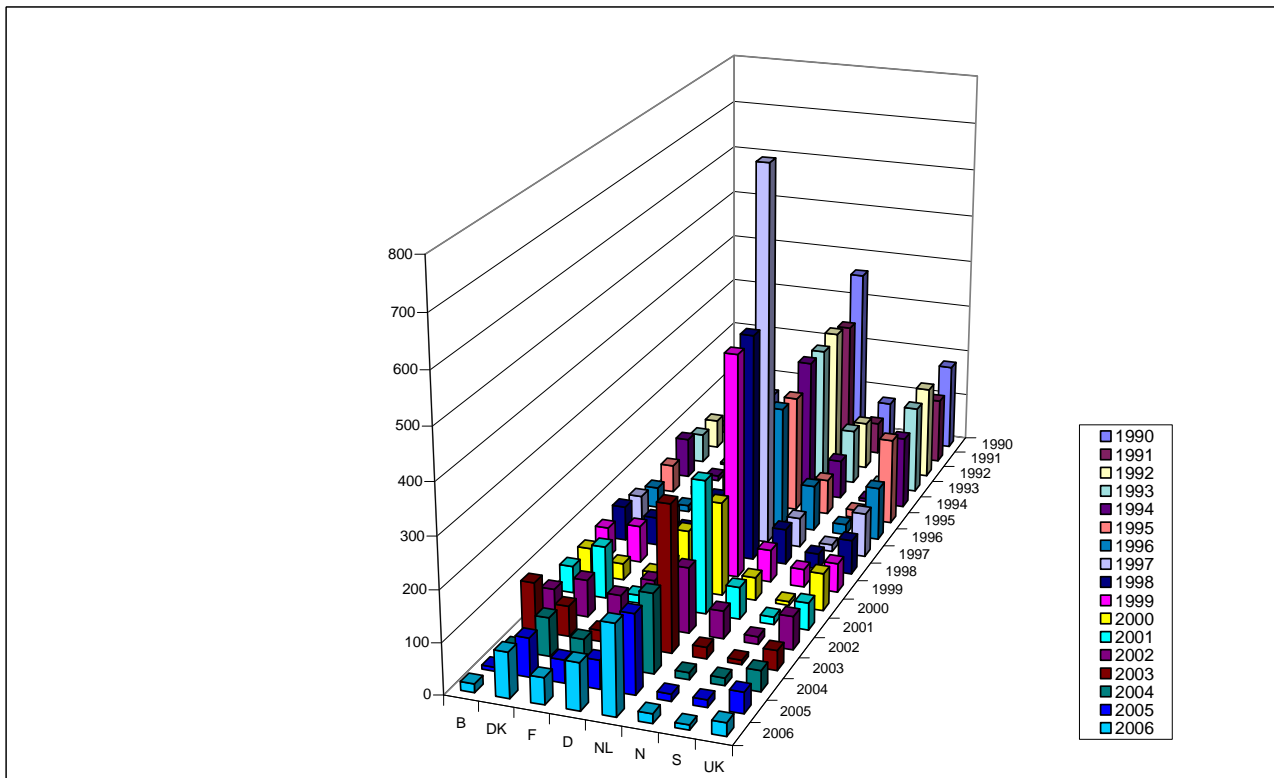




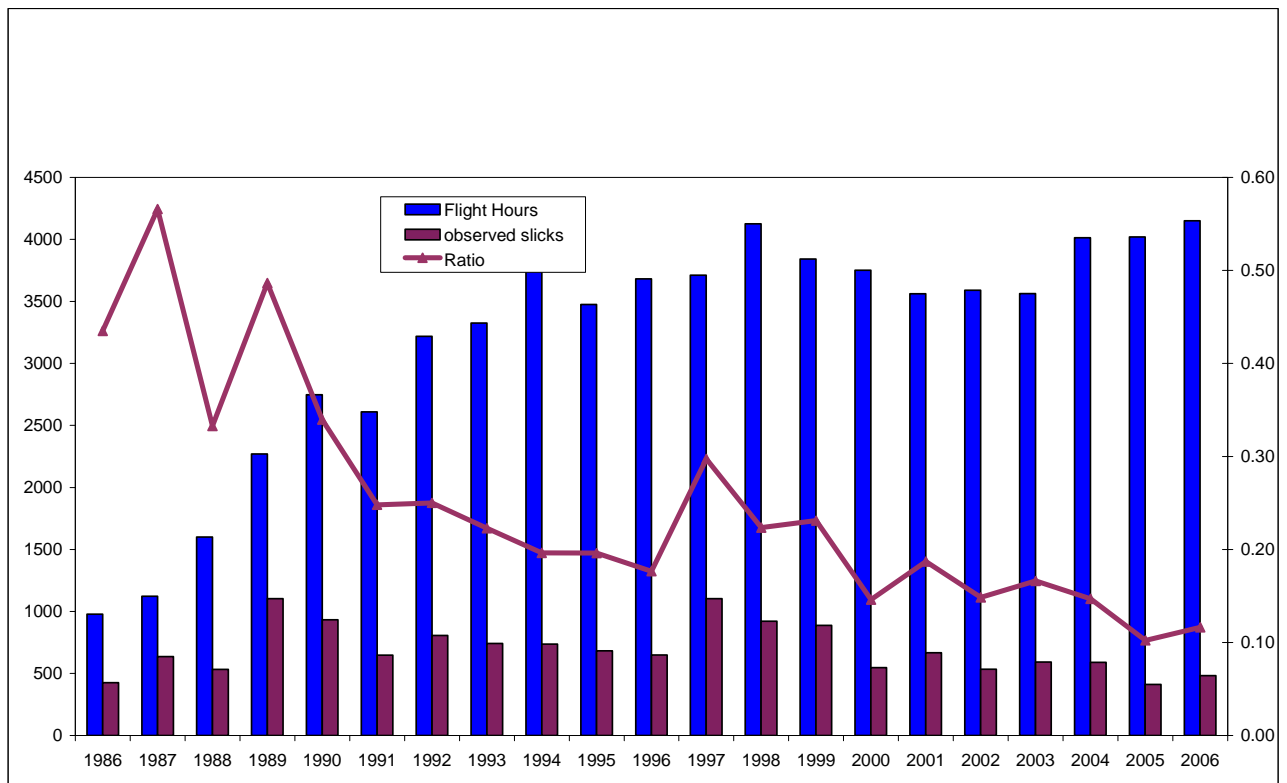
**Figure 5: Number of flight hours per country 1990 – 2006**



**Figure 6: Number of slicks observed 1990 – 2006**



**Figure 7: Total numbers: all flight hours and all observed slicks 1986 – 2006 and their ratio**



**ANNEX 1****Definitions used in the reporting of data from aerial and satellite surveillance****Aerial surveillance**

Country	Name of the Contracting Party reporting.
One Flight	Unit of operation between take-off and next landing.
No. of flight hours	Nationally allocated flight hours over the sea carried out by trained observers on behalf of the Contracting Party.
Day (daylight)	From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac.
Night (darkness)	From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac.
Detections	Number of first reports on possible pollutions obtained in aerial operations (raw data) - that is, a "detection" is based on an instrumental approach, where SLAR, IR/UV or other instruments give a first indication that the wave pattern is influenced by some surface phenomenon.
Detections confirmed/observed as oil spills	Number of the total aerial-surveillance detections (first reports) that have been verified and/or identified visually or by means of instruments as oil spills, and are confirmed by a trained operator as pollution.
Estimated volume of a spill	The minimum volume of one spill calculated using the Bonn Agreement Oil Appearance Code (by applying the lower limit of the bracket in the Code).
No. of polluters	Number of sources of pollution identified.
Slick	An area of (possible) pollution.
Spill	A collection of one or more slicks originating from the same source.
Spill ID	A unique reference for each spill. The reference should consist of a letter (or letters) identifying the Contracting Party (B, DK, F, G, NL, N, S, UK), and a number in sequence, beginning with 1 at the beginning of each calendar year – e.g. NL-07.
Remarks	This column should be used to report on particular situations.

At night (darkness), the type of pollution cannot, currently, always be positively determined. However, a detection may be categorised as an oil-slick if, in the opinion of a trained observer/operator, the shape and size of the detection are consistent with those associated with an oil slick. Nevertheless, care should be taken before reaching such a conclusion.

**Additional terms related to Satellite Surveillance**

Satellite detections	The number of reports (first alerts) within the EEZ of the Contracting Party obtained through satellite detection, including those obtained from other countries (in which case the source country should be identified).
Detections verified/confirmed as oil spills	Number of the total satellite detections (first alerts) that have been verified and/or identified visually or by means of instruments as oil spills, and are confirmed by a trained operator as pollution.

## Additional information on the Tour de Horizon flights

### Report on Tour de Horizon flights carried out during 2006

#### Introduction

The Tour de Horizon (TdH) flights for 2006 were flown as follows:

- June - United Kingdom + Sweden;
- July – The Netherlands;
- August – Germany;
- September – Norway;
- October – Belgium.

The flights took place on 19 days between 5 June and 20 October 2006, more specifically:

- From 05 till 06 June;
- From 10 till 12 June;
- From 18 till 20 July;
- From 08 till 10 August;
- From 30 August till 02 September;
- From 16 till 20 October.

All flight data have been sent to Belgium for compilation.

#### Detections

- 28 detections were made: 14 in UK area, 7 in Norwegian area, 5 in Danish area, 1 in German area and 1 in Dutch area.
- 24 detections were identified as oil, 4 could only be detected by SLAR (due to bad visibility).
- 24 detections were associated with offshore installations (13 in UK area, 7 in Norwegian area and 4 in Danish area). The source of pollution of the remaining 4 detections could not be established; two of these pollutions with unidentified polluter had significant oil volumes (see below).
- Considering the *minimum* volume estimates:
  - 3 detections were quantified as more than 1 m<sup>3</sup> (6,30, 2,31 and 11,86 m<sup>3</sup> resp.; two times without no identified polluter);
  - 1 detection was quantified as between 0.5 and 1 m<sup>3</sup>;
  - 10 detections were between 0,1 and 0,5 m<sup>3</sup>;
  - 10 detections were lower than 0,1 m<sup>3</sup>.
- Considering the *maximum* volume estimates:
  - 1 detection was quantified as more than 100 m<sup>3</sup> (119,67 m<sup>3</sup>; no identified polluter);
  - 2 detections were quantified between 10-100 m<sup>3</sup> (25,22 and 28,50 m<sup>3</sup> resp.; the first estimate: no identified polluter);
  - 12 detections were between 1-10 m<sup>3</sup>;
  - 1 detection was between 0.1 and 0.5 m<sup>3</sup>;
  - 4 detections were below 0.1 m<sup>3</sup>.

- All countries reported that no 'first alert' satellite detection was obtained for any of the 'aerial' TdH detections.

### **Detection reporting**

The available information on the reporting procedures followed by each aircrew shows that:

- In most cases detections are reported by fax after flight to the National Focal Point of the concerned State.
- Only Germany, and partially also Belgium and Norway make an in-flight report to that National Focal Point.

### **Detection investigation**

- With respect to the three minor spills observed by the Belgian aircraft at Norwegian platforms, Norway replied that it were minor spills within legal boundaries.
- Problems were reported by Denmark and Norway concerning the logging of TdH pollution observation reports. Because of this, no inspectors' assessment on those spills could be reported.
- The UK reported that the spills found connected to British platforms by the Swedish, Dutch and Norwegian aircrew were caused by produced water.

### **Recommendations**

- The reporting procedures should be strictly followed by aircrew to ensure that all detections can be followed up in a timely fashion and to allow appropriate action to be taken by the national authority against the polluter. Upon receiving a TdH pollution observation report, a National Focal Point should ensure appropriate follow-up action at national level and keep the information logged for later reporting purposes.
- For next annual report, Belgium suggests that maps of the Tour the Horizon flights be inserted in the report, showing the flight tracks and also indicating the pollutions observed.



## TOUR DE HORIZON 2006 RESULTS

## 1. SWEDEN –05-08 JUNE 2006

No	Date (ddmm)	Time (UTC)	Position (N - E/W)	CP Area	Area cov.	Min. Quan.	Max. Quan.	Polluter ID
1	50606	15:40	61°16' N 001°36' E	UK	1,35	0,09	<b>1,04</b>	Rig Dunlin A
2	60606	9:35	58°41' N 001°16' E	UK	0,09	0,01	0,11	Rig Brae A
3	60606	9:53	58°10' N 001°00' E	UK	0,18	<b>6,30</b>	<b>25,22</b>	-

- No first alert via SAT detection.
- Reporting to concerned Coastal State authorities: All have been reported later (after flight) by e-mail to [wm.aberdeen@mcga.gov.uk](mailto:wm.aberdeen@mcga.gov.uk).

## 2. UNITED KINGDOM – 10-12 JUNE 2006

No pollutions observed.

## 3. NETHERLANDS – 18-20 JULY 2006

No	Date (ddmm)	Time (UTC)	Position (N - E/W)	CP Area	Area cov.	Min. Quan.	Max. Quan.	Polluter ID
1	18/07	11:10	56°23.63' N 002°15.42' E	UK	?	-	-	Auka-A (only SLAR)
2	18/07	11:40	57°40.00' N 000°55.00' E	UK	29.4	-	-	Forties (only SLAR)
3	19/07	9:56	58°27.20' N 000°15.30' W	UK	0.7	-	-	Claymore (only SLAR)
4	19/07	10:09	58°19.92' N 000°43.93' W	UK	1.4	0,05	0,42	Mac Culloch
5	19/07	10:20	58°13.58' N 001°06.13' E	UK	8.89	0,35	<b>2,66</b>	Balmoral
6	19/07	10:32	58°02.98' N 001°23.13' E	UK	3.44	0,13	<b>1,03</b>	Andrew
7	19/07	10:51	58°41.17' N 001°17.17' E	UK	5.33	0,28	<b>2,85</b>	Brea
8	20/07	8:30	61°18.40' N 001°55.40' E	NORWAY	0.5	0,15	<b>2,50</b>	Statfjord C (no SLAR)
9	20/07	8:30	61°26.30' N 001°45.20' E	UK	0.6	0,18	<b>3,00</b>	Murchinson (no SLAR)
10	20/07	8:42	61°37.20' N 001°19.90' E	UK	0.6	0,18	<b>3,00</b>	Magnus (no SLAR)
11	20/07	8:51	61°14.80' N 001°00.00' E	UK	3	<b>2,31</b>	<b>28,50</b>	Tern

								(no SLAR)
12	20/07	13:00	56°54.80' N 003°04.82' E	NORWAY	4.97	0,19	<b>1,49</b>	Gyda
13	20/07	13:10	56°33.13' N 003°12.60' E	NORWAY	6	0,24	<b>1,80</b>	Ekofisk
14	20/07	13:15	56°30.20' N 003°12.50' E	NORWAY	0.45	0,02	0,13	Ekosfisk 2A
15	20/07	13:43	55°35.30' N 004°46.30' E	DENMAR K	0.64	0,19	<b>3,20</b>	Gorm C
16	20/07	13:45	55°32.43' N 005°00.00' E	DENMAR K	0.46	0,02	0,13	Half Dan
17	20/07	13:50	55°29.80' N 005°06.00' E	DENMAR K	0.12	0,01	0,04	Dan FC

- No first alert via SAT detection;
- Reporting procedure to concerned Coastal State authorities: Yes, to NFP's UK, NO and DK after flight with fax.

#### 4. GERMANY – 08-10 AUG 2006

No	Date (ddmm)	Time (UTC)	Position (N - E/W)	CP Area	Area cov.	Min. Quan.	Max. Quan.	Polluter ID
1	1008	12:50	55°31,4' N 004°40,6 E	DENMARK	0,26	0,28	<b>2,81</b>	GORM C
2	1008	13:09	55°33,0' N 005°03,5 E	DENMARK	7,63	<b>11,86</b>	<b>119,67</b>	-

- No first alert via SAT detection.
- Reporting to concerned Coastal State authorities: Yes, to National Focal Point DK + GER after flight with fax; in-flight radio contact with DK.

#### 5. NORWAY – 30 Aug. – 02 SEP 2006

No	Date (ddmm)	Time (UTC)	Position (N - E/W)	CP Area	Area cov.	Min. Quan.	Max. Quan.	Polluter ID
1	30/08	16:42	52°23' N 004°06' E	NL	4	-	-	- (only SLAR)
2	02/09	15:01	61°23' N 001°44' E	UK	15	0,75	<b>4,50</b>	MURCHISON

- No first alert via SAT detection.
- Reporting to concerned Coastal State authorities:
  - No 1: Yes, in-flight contact with NL and data sent after landing. + Fax to Kystverket Norway after landing.
  - No 2 : No contact with UK; only fax to Kystverket NO after landing.

**6. BELGIUM – 16-20 OCT 2006**

No	Date (ddmm)	Time (UTC)	Position (N - E/W)	CP Area	Area cov.	Min. Quan.	Max. Quan.	Polluter ID
1	18/10	09:48	61,467°N - 2,142°E	NORWAY		0,01	0,10	SNORRE A
2	18/10	09:54	61,525°N - 2,212°E	NORWAY		0,01	0,05	SNORRE B
3	18/10	10:28	60,543°N - 3,047°E	NORWAY		< 0,01	0,02	BRAGE
4	20/10	08:50	54,518°N - 6,38°E	GERMANY		0,01	0,07	-

- No first alert via SAT detection.
- Reporting to concerned Coastal State authorities:
  - No 1-3: Reporting to Norwegian National Focal Point per fax, after flight.
  - No 4: no reporting.

## TOUR DE HORIZON 2006 – DETECTION INVESTIGATION SUMMARY

## JUNE - SWEDEN

Date	Time	Platform	Reported quantity	Government inspectors assessment
05/06	15:40	Rig Dunlin A	0,09 – 1,04	<i>UK : Produced water</i>
06/06	9:35	Rig Brae A	0,01 – 0,11	<i>UK : Produced water</i>

## JULY – NETHERLANDS

Date	Time	Platform	Reported quantity	Government inspectors assessment
18/07	11:10	Auka-A	-	<i>UK : Produced water</i>
18/07	11:40	Forties	-	<i>UK : Produced water</i>
19/07	9:56	Claymore	-	<i>UK : Produced water</i>
19/07	10:09	Mac Culloch	0,05 – 0,42	<i>UK : Produced water</i>
19/07	10:20	Balmoral	0,35 – 2,66	<i>UK : Produced water</i>
19/07	10:32	Andrew	0,13 – 1,03	<i>UK : Produced water</i>
19/07	10:51	Brea	0,28 – 2,85	<i>UK : Produced water</i>
20/07	8:30	Statfjord C	0,15 – 2,50	<i>Norway: No TDH report is logged received from the Netherlands</i>
20/07	8:30	Murchinson	0,18 – 3,00	<i>UK : Produced water</i>
20/07	8:42	Magnus	0,18 – 3,00	<i>UK : Produced water</i>
20/07	8:51	Tern	2,31 – 28,50	<i>UK : Produced water</i>
20/07	13:00	Gyda	0,19 – 1,49	<i>Norway: No TDH report is logged received from the Netherlands</i>
20/07	13:10	Ekofisk	0,24 – 1,80	<i>Norway: No TDH report is logged received from the Netherlands</i>
20/07	13:15	Ekosfisk 2A	0,02 – 0,13	<i>Norway: No TDH report is logged received from the Netherlands</i>
20/07	13:43	Gorm C	0,19 – 3,20	<i>Denmark: No report (OILOBS) relating to the Dutch observation could be found in DK files</i>
20/07	13:45	Half Dan	0,02 – 0,13	<i>Denmark: No report (OILOBS) relating to the Dutch observation could be found in DK files</i>
20/07	13:50	Dan FC	0,01 – 0,04	<i>Denmark: No report (OILOBS) relating to the Dutch observation could be found in DK files</i>

## AUGUST - GERMANY

Date	Time	Platform	Reported quantity	Government inspectors assessment
10/08	12:50	GORM C	0,28 – 2,81	<i>Denmark: No report (OIL OBS) relating to the German observation could be found in DK files</i>

## SEPTEMBER – NORWAY

Date	Time	Platform	Reported quantity	Government inspectors assessment
02/09	15:01	MURCHISON	0,75 – 4,50	<i>UK : Produced water</i>

## OCTOBER – BELGIUM

Date	Time	Platform	Reported quantity	Government inspectors assessment
18/10	09:48	SNORRE A	0,01 – 0,10	<i>Norway: Statement from oil rigs after investigation of officer on duty: no production on this platform at that time, so spill must have been small</i>
18/10	09:54	SNORRE B	0,01 – 0,05	<i>Norway: Statement from oil rigs after investigation of officer on duty: 9.2 ppm oil in produced waters; within legal boundaries</i>
18/10	10:28	BRAGE	0,01 – 0,02	<i>Norway: Statement from oil rigs after investigation of officer on duty: 15 ppm oil in produced water – within legal boundaries</i>

## ANNEX 3

## Summary of information provided by Contracting Parties on EEZs, major traffic routes, oil and gas installations, satellite surveillance programmes and objectives of flights

### Size of Contracting Parties' Exclusive Economic Zones (EEZs)

Belgium	3 500 km <sup>2</sup>
Denmark	105 000 km <sup>2</sup>
France	265 000 km <sup>2</sup>
Germany	approximately 34 100 km <sup>2</sup>
Netherlands	46 462 km <sup>2</sup>
Norway	approximately 2 000 000 km <sup>2</sup>
Sweden	approximately 70 000 km <sup>2</sup>
UK	The UK has not declared an EEZ. The UK Pollution Control Zone covers more than 300 000 km <sup>2</sup> .

### Major traffic routes in Contracting Parties EEZs

Belgium	<b>North Hinder Traffic Separation Scheme (TSS) and West Hinder TSS</b>
Denmark	<p><b>Route T (TANGO)</b>, leading from the Skaw via the Great Belt to the Baltic. In 2003 a total of 23 240 ships passed the bridge in Great Belt.</p> <p><b>The Sound</b>, leading from the Kattegat past Copenhagen into the Baltic. In 2003, a total of 37 161 ships passed Helsingør (Elsinore).</p>
France	<p>Major traffic route <b>between Spain and Northern Europe</b>.</p> <p>The Pas de Calais/English Channel (see under UK for more detail).</p>
Germany	The <b>German Bight Western Approach</b> and <b>Terschelling/German Bight</b> Traffic Separation Schemes.
Netherlands	See Figure 3
Norway	<p><b>Along the northern coast of Norway</b> and down the west coast. In addition to the normal coastal shipping traffic, there is an increasing traffic of oil/oil products from the north-western part of Russia.</p> <p><b>West coast of Norway</b>. In addition to the normal coastal shipping traffic, there is much transport of crude oil from offshore installations to refineries in the Bergen area. Large amounts of oil products are also shipped out towards the European continent.</p> <p><b>Along the southern part of Norway</b> there are major shipping routes from the Baltic-sea. There is also significant transport to and from refineries and industry along the Oslo Fjord.</p> <p>See Figure 4</p>
Sweden	Along the Swedish south and east coasts there is increased transport of oil and oil products from the Gulf of Finland.
UK	<p>The UK's 18,000 kilometres of coastline is one of the largest in Europe, and the UK economy relies on shipping for 95 per cent of its visible trade. There are several major commodity ports: London, Milford Haven, Teesport, Grimsby / Immingham, Southampton, Forth, Liverpool, Manchester and Medway. The major oil terminals are Teesport, Sullom Voe, Flotta and Hound Point.</p> <p>A large volume of shipping passes through UK waters en route to or from major ports on the European mainland. There are a number of straits, for example the Pentland Firth, Little</p>

	Minch, North Channel and the Dover Strait. The Dover Strait connects the English Channel to the North Sea and is the busiest of all straits used for international navigation, with some 350 through shipping movements per day. Due to this density of shipping, as well as bad weather and strong tidal currents, the risk of collision is ever present.
--	--

### Number of oil/gas rigs in Contracting Parties' EEZs

Belgium	None
Denmark	9 fixed oil rigs 17 operative oil fields 29 productive sites (installations)
France	
Germany	1 Oil Rig (Mittelplate) and 3 Gas Rigs
Netherlands	78 gas offshore installations 7 oil offshore installations
Norway	53 oil/gas – fields in operation in the Norwegian EEZ. Many of these oil/gas-fields contain several platforms, satellites and sub-sea satellites. 10 PDO approved fields. These are fields which the authorities have approved a plan for development and operation (PDO) or granted a PDO exemption.
Sweden	None
UK	255 oil- and gas-producing fields. Many of these oil/gas-fields contain several platforms, satellites, and sub-sea satellites.

For further details see the OSPAR Offshore Installation database on the OSPAR website: "Inventory of Oil and Gas Offshore Installations in the OSPAR Maritime Area", Publication No. 334 (2007). ([http://www.ospar.org/v\\_publications/welcome.asp](http://www.ospar.org/v_publications/welcome.asp)) and search for publication no. 334).

### Existence of satellite programmes

Belgium	None
Denmark	Planning of aerial surveillance takes into account the dates of satellite surveillance (approx. 100 pictures per year), and is done by the Admiral Danish Fleet HQ and Tactical Air Command in close co-operation.
France	None
Germany	Partner in EU research project OCEANIDES until 2006
Netherlands	Mid 2003 a satellite programme was terminated
Norway	The Norwegian Coastal Administration supports a national satellite program called SATHAV. The aim of this program is to coordinate use of satellite data between governmental users, such as the military, the different pollution authorities, meteorological institutes, research institutes, universities etc. The Norwegian Space Agency, which is in charge of this programme, has made a long-term agreement with Canadian Radarsat for unlimited use of Radarsat 2 images for the Norwegian EEZ. Pending the launch of Radarsat 2, ENVISAT and Radarsat 1 images are used in the SATHAV program. In 2006, 1596 satellite pictures were used within Norwegian EEZ. 1218 of these pictures were specified for NOFO, and the main aim here is the offshore industry, however unknown slicks from these images are also processed on to the Norwegian coastal administration. 378 images are specified to coastal waters, most of them north of N61. Norway only receives High Confidence satellite observations.
Sweden	Established satellite programme for 2004 153 satellite scene images for the Bonn Agreement and HELCOM area.
UK	The UK has been involved in a tripartite satellite surveillance programme with Germany and the Netherlands. This is part of the ENVISAT market development programme. Both

	ENVISAT and RADARSAT images have been used. New software called VISANT, developed by the programme contractors, Kongsberg Satellite Services, Tromsø, Norway has been used.
--	---

### Brief description of the objective of the flights

Belgium	<p>The tasks to be achieved during the flights are:</p> <ul style="list-style-type: none"> <li>• Pollution Control - to detect deliberate pollution from ships using visual and remote sensing detection means;</li> <li>• Accidental Pollution Monitoring - to detect and evaluate accidental oil pollution from ships (in 2003, the Tricolor and Vicky incidents);</li> <li>• Fisheries Control, with the support of the relevant specialist service;</li> <li>• Traffic Control, with the support of the National Police;</li> <li>• Research and scientific observations.</li> </ul>
Denmark	<p>The purposes are :</p> <ul style="list-style-type: none"> <li>• Show of force</li> <li>• Investigation of possible oil-slicks</li> <li>• Investigation of possible polluters</li> <li>• Collection of evidence</li> </ul>
France	<p>Flights are carried out by two types of aircraft</p> <ul style="list-style-type: none"> <li>• Remote-sensing aircraft dedicated to pollution surveillance ;</li> <li>• General surveillance aircraft dedicated to multi-purpose missions, including pollution surveillance.</li> </ul>
Germany	Aerial surveillance flights are undertaken for pollution monitoring and, in case of pollution which can be combated at sea, to optimise the use of response vessels during the recovery operation at sea.
Netherlands	The objective of the flights is law enforcement, prevention of pollution, monitoring of shipping, 'eye in the sky' in case of disasters, and search and rescue.
Norway	<p>The Norwegian Coastal Administration's fixed-wing surveillance mainly targets near-shore activities. The main objectives of surveillance are to identify acute pollution and illegal pollution from ships, and to monitor coastal industry and other coastal and near-coastal activities. Offshore installations are also monitored, but less frequently than in the past. This is because the offshore regulatory system requires the offshore industry to have its own system of monitoring spills from produced water and acute pollution. The Offshore Industry Pollution Law is enforced by the Norwegian Pollution Authorities (except for acute pollution). The Acute Pollution Law is enforced by the Norwegian Coastal Administration.</p> <p>Aims for fixed wing surveillance:</p> <ol style="list-style-type: none"> <li>1. The fixed-wing surveillance should constantly cover the Administration's needs for detection, classification, documentation and on-scene evaluation, so that the correct measures for dealing with any pollution are established.</li> <li>2. The fixed-wing surveillance should have the effect of preventing illegal behaviour.</li> <li>3. The fixed wing surveillance should at all times be aimed at high-risk activities.</li> </ol>
Sweden	Pollution, fishery, ship routings, border, customs-control and search-and-rescue.
UK	<p>The Maritime and Coastguard Agency (MCA) is responsible for minimising the risk of pollution of the marine environment from ships and, where pollution occurs, minimising its impact on UK waters, coastlines and economic interests.</p> <p>The MCA aerial surveillance flight programme varies from month to month to avoid becoming predictable, so as not to undermine the deterrent effect. Aerial surveillance is generally targeted on the areas posing the greatest risk, such as the major shipping routes and around offshore installations.</p>